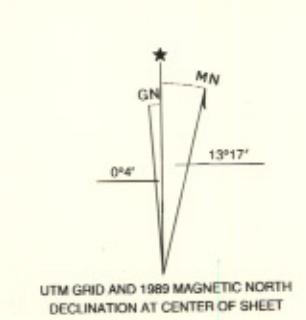


Base map from U.S. Geological Survey,  
Red Breaks Quadrangle 1964

Field mapping by authors in 1979-80 and 1986  
Kent D. Brown, Patricia H. Speranza, Cartographers

U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY  
Washington, D. C. 1986



SCALE 1:24,000  
1 MILE  
1 KILOMETER  
CONTOUR INTERVAL 40 FEET  
DOTTED LINES REPRESENT 20-FOOT CONTOURS  
DATUM IS MEAN SEA LEVEL



## GEOLOGIC MAP OF THE RED BREAKS QUADRANGLE, GARFIELD COUNTY, UTAH

by  
Gordon W. Weir and L. Sue Beard  
U.S. Geological Survey

#### MAP SYMBOLS

**CONTACT** — Boundaries of surficial deposits approximately located.

**FAULT** — Dashed where inferred; dotted where concealed; bar and ball on downthrown side. Arrows on cross section indicate direction of relative movement.

**ANTICLINE** — Showing trace of axial plane and plunge of axis; dashed where approximately located.

**SYNCLINE** — Showing trace of axial plane and plunge of axis; dashed where approximately located.

#### STRIKE AND DIP OF BEDS

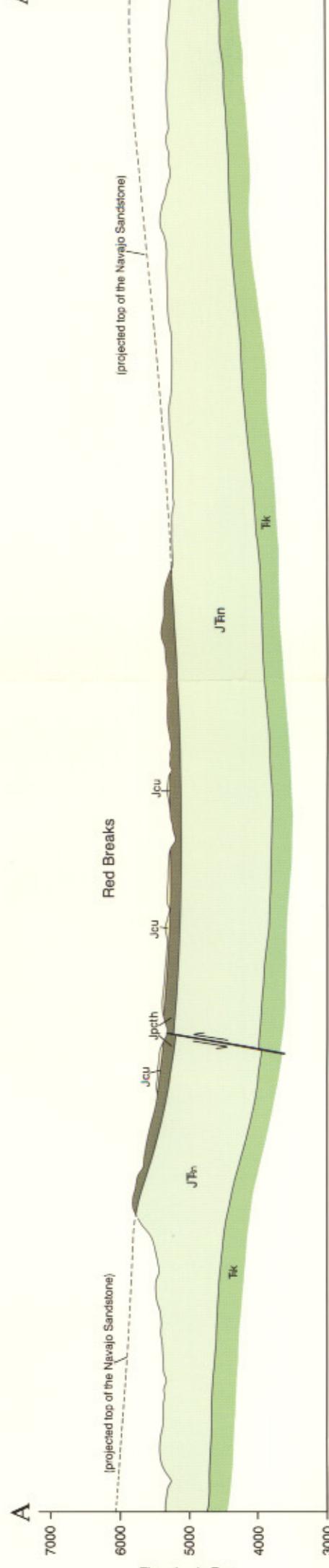
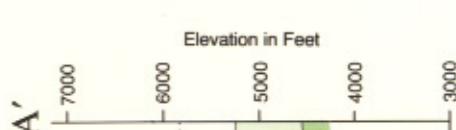
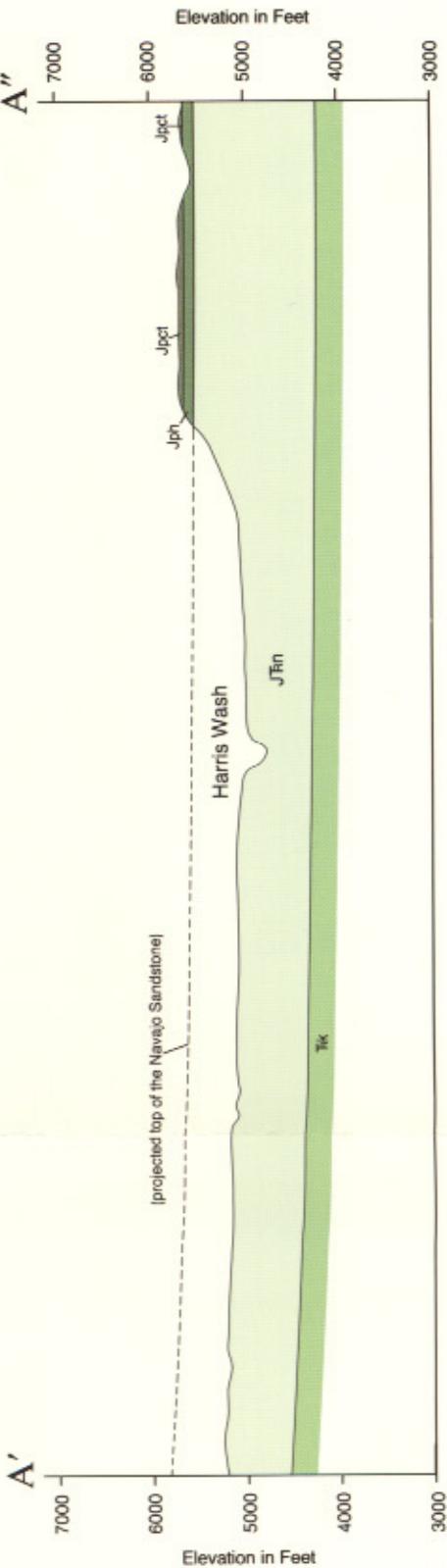
Inclined

#### STRIKE OF VERTICAL AND NEAR-VERTICAL JOINTS

**OIL WELL** — Dry hole, showing name of well.

**STRUCTURE CONTOURS** — Drawn on top of Navajo Sandstone. Long dashed where control less accurate. Short dashed where datum above land surface. Contour interval 100 ft.

FORMATION	SYMBOL	THICKNESS (Feet)	LITHOLOGY
Alluvium and eolian	Q	0-20	
High-gravel terrace alluvium	QTatv	0-30	
Entrada Sandstone	Je	200+	
Carmel Formation	Upper member	Jcu	220-250
Page Sandstone	Thousand Pockets Tongue	Jpct	30-80
Carmel Fm	Judd Hollow Tongue	Jph	6-30
Page Sandstone	Harris Wash Tongue	Jpct (cross section only)	40-90
		Jpct (cross section only)	100-200
Navajo Sandstone	JTn	50-120	1300-1500
Kayenta Formation	Tik		350+
Wingate Sandstone	Tiw		20+



#### DESCRIPTION OF MAP UNITS

**Qal** Floodplain alluvium — Fine sand and silt with local admixtures of gravel on floodplains and in channels.

**Qae** Sheetwash alluvium and eolian — Silt, sand and small pebbles and rock fragments in broad, thin sheets masking bedrock.

**Qes** Wind-blown sand — Fine grains of quartz and minor silt in thin sheets and small dunes masking bedrock.

**Qar** Fine-grained terrace alluvium — Silt, fine sand and sparse pebbles on benches 5-15 feet above stream level.

**Qat** Low gravel terrace alluvium — Gravel, consisting of pebbles to cobbles of quartzite, fine-grained metamorphic rocks, and lesser amounts of basaltic andesite, resting on benches 30-80 feet above stream level.

**Qatb** Intermediate gravel terrace alluvium — Gravel consisting of pebbles to cobbles of quartzite, fine-grained metamorphic rocks, and lesser amounts of basaltic andesite, resting on a bench about 200 feet above stream level.

**QTatv** High gravel terrace alluvium — Gravel, consisting of pebbles to boulders of quartzite, fine-grained metamorphic rocks, and lesser amounts of basaltic andesite, weakly cemented by caliche, on benches about 850 feet above the Escalante River.

**UNCONFORMITY**  
**Je** Entrada Sandstone — Reddish-brown, fine-grained silty sandstone, and minor siltstone and mudstone, in part crossbedded.

**Jcu** Upper member of the Carmel Formation — Reddish-brown shale, yellowish-brown fine-grained sandstone, micrograined limestone, and gypsum.

**Jpct** Thousand Pockets Tongue of the Page Sandstone and Judd Hollow Tongue of the Carmel Formation — Gray, fine- to medium-grained sandstone above, and reddish-brown siltstone below, commonly contorted.

**Jph** Harris Wash Tongue of the Page Sandstone — Light-grayish-orange, crossbedded, fine-grained sandstone; chert granules and small pebbles of chert at base. Shown by line where too thin to show thickness.

**UNCONFORMITY**  
**JTn** Navajo Sandstone — Light grayish-orange, crossbedded, fine-grained sandstone.

**Tik** Kayenta Formation — Grayish-red to dusky-red, crossbedded, fine-grained sandstone interstratified with tabular bedded siltstone.

**Tiw** Wingate Sandstone — Grayish-red to grayish-orange, crossbedded, fine-grained sandstone.

#### CORRELATION OF MAP UNITS

